

CLAIMS:

1. An apparatus for capturing an image comprising:

- an input device for providing at least plural image segments of an object scene captured at different focus distances;
- a perspective correction device for determining at least one geometric transform to correct said image segments for perspective distortion; and
- an image compositor for compositing a perspective corrected image of said object from the plural image segments to which said at least one geometric transform has been applied.

2. An apparatus according to claim 1, wherein the input device comprises an image capture device for capturing plural images of the object at said different focus distances, and wherein the image compositor composites the image from plural segments derived from the plural captured images.

3. An apparatus according to claim 2, further comprising an image analyzer for analyzing the captured images for selection of a segment of the captured image for the compositor.

4. An apparatus according to claim 4, wherein the image analyzer comprises a registration detector for identifying the registration of one image with respect to another.

5. An apparatus according to claim 3, wherein the image analyzer is operative to analyze the quality of at least a region of a captured image, for selection of a segment therefrom for the compositor according to the image quality of the segment.

6. An apparatus according to claim 5, wherein the quality is determined by the sharpness of the image.

7. An apparatus according to claim 5 wherein the quality is determined by the resolution of the image.

8. An apparatus according to claim 2, further comprising a variable focus mechanism for varying the focus distance, and a controller for controlling

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the image capture device and the variable focus mechanism to capture said at least plural image segments of an object at different focus distances.

9. An apparatus according to claim 2, further comprising a variable zoom mechanism for varying the zoom setting for the image capture device, and a controller for controlling the image capture device to capture said at least plural image segments of an object at different zoom settings.

5 10 An apparatus according to claim 2, further comprising a variable focus mechanism for varying the focus distance, a variable zoom mechanism for varying the zoom setting for the image capture device, and a controller operative to control the variable focus mechanism and the variable zoom mechanism to vary the focus setting and the zoom setting in combination.

15 11. An apparatus according to claim 2, wherein the apparatus is implemented in a camera.

12. An apparatus comprising:

- a) an input device for providing at least plural image segments of an object scene captured at different focus distances;
- b) an image analyzer for analyzing the at least plural image segments, for determining the registration of one image with respect to another; and
- c) an image compositor for composing an image of said object from the plural image segments.

20 25 13. An apparatus according to claim 12, wherein the image analyzer is operative to determine the quality of the at least plural image segments, and the image compositor is operative to composite the image from image segments identified by the image analyzer as having the best quality relative to other image segments.

30 14. An apparatus according to claim 12, further comprising an image capture device for capturing said images at different focus distances, a variable zoom mechanism for varying the zoom setting for the image capture

device, and a controller for controlling the image capture device to capture said at least plural image segments of an object at different zoom settings.

- ✓ 15. An apparatus according to claim 12, wherein the apparatus is 5 implemented in a camera.
- ✓ 16. A method of generating a digital image of an object, the method comprising:
 - a) capturing plural images of an object scene at different focus distances;
 - 10 b) determining at least one geometric transform for correcting the image segments for perspective distortion; and
 - c) compositing a perspective corrected image from plural image segments to which the at least one geometric transform has been applied.
- 15 17. A method according to claim 16, further comprising:
 - a) analyzing at least one region of each captured image or image segment to identify the quality of said region in that captured image; and

20 wherein the step of compositing comprises compositing the image of the object from image segments extracted from the plural captured images according to the result of the quality analysis.
- 18. A method according to claim 17, wherein the step of analyzing comprises determining the relative qualities of a region of an image in the plural captured images, and identifying which captured image provides said region with the best quality.
- 25 19. A method according to claim 17, wherein the quality analysis comprises analyzing at least one characteristic selected from the characteristics of: image sharpness; and image resolution.
- ✓ 20. A method according to claim 16, wherein the method is implemented in a 30 camera.